



Idaho National Engineering and Environmental Laboratory

Climate Coupled Energy System

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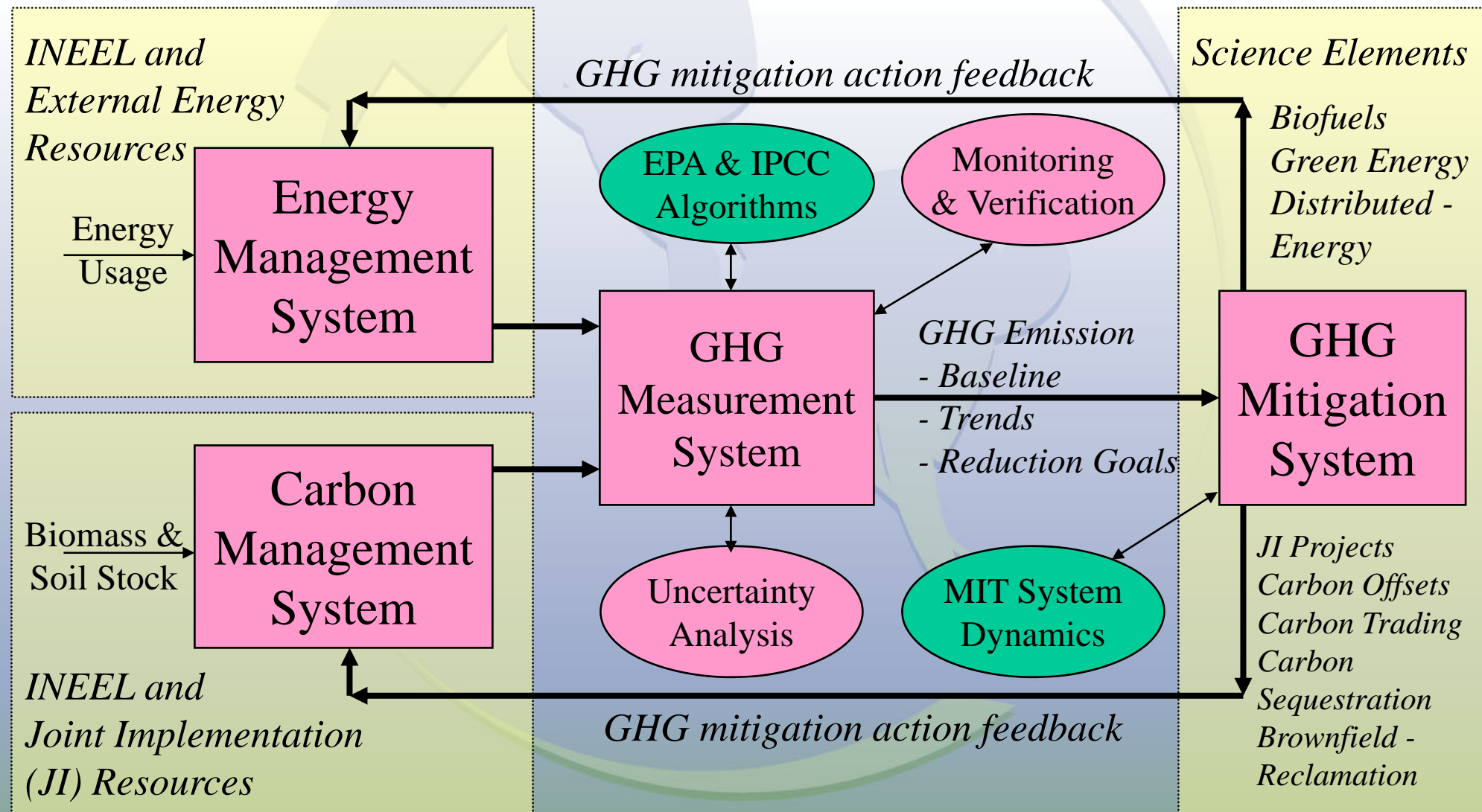
July, 2002





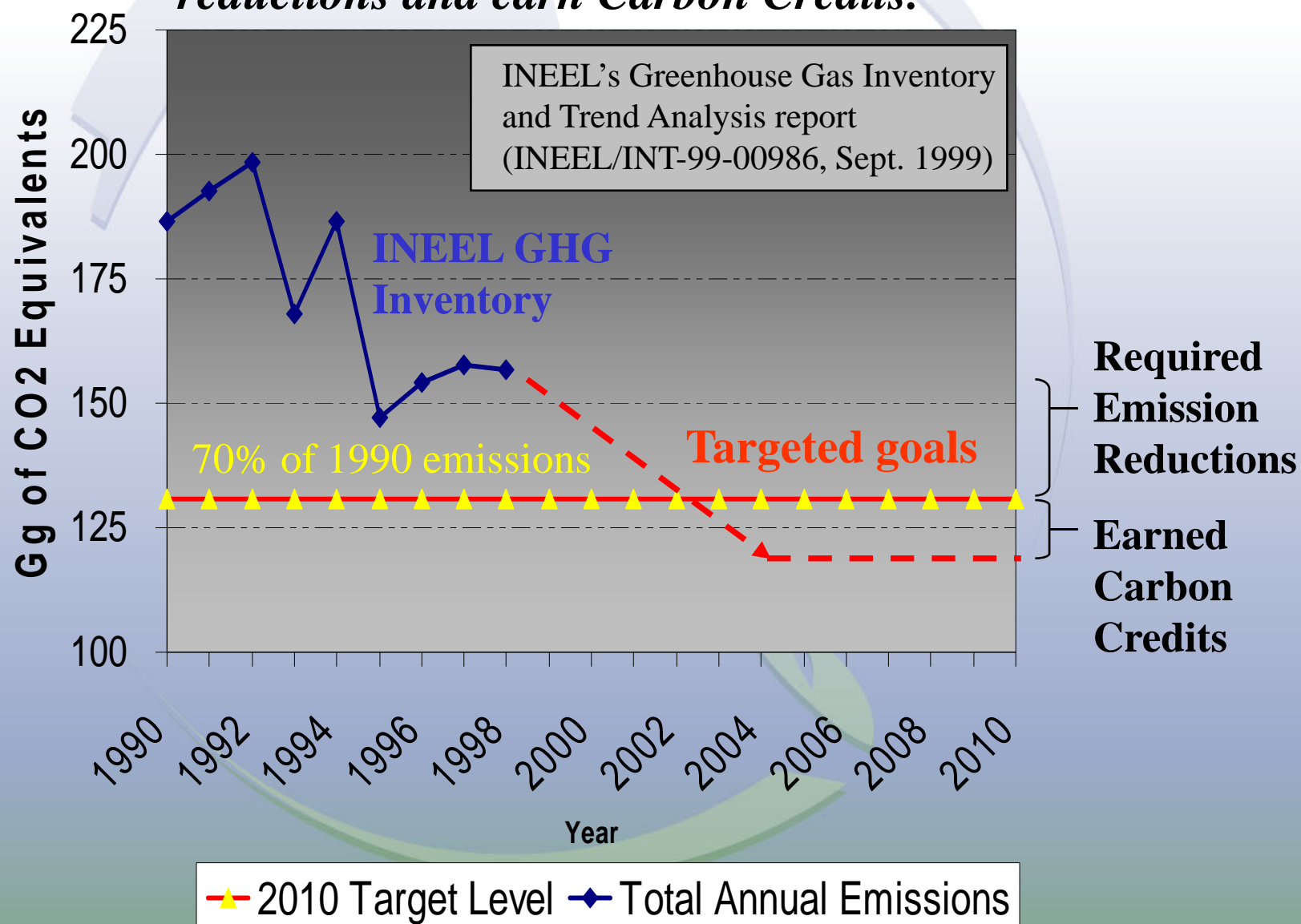
INEEL Climate Coupled Energy System

is an integrated approach to co-manage Energy and Carbon resources to reduce Greenhouse Gases (GHG).





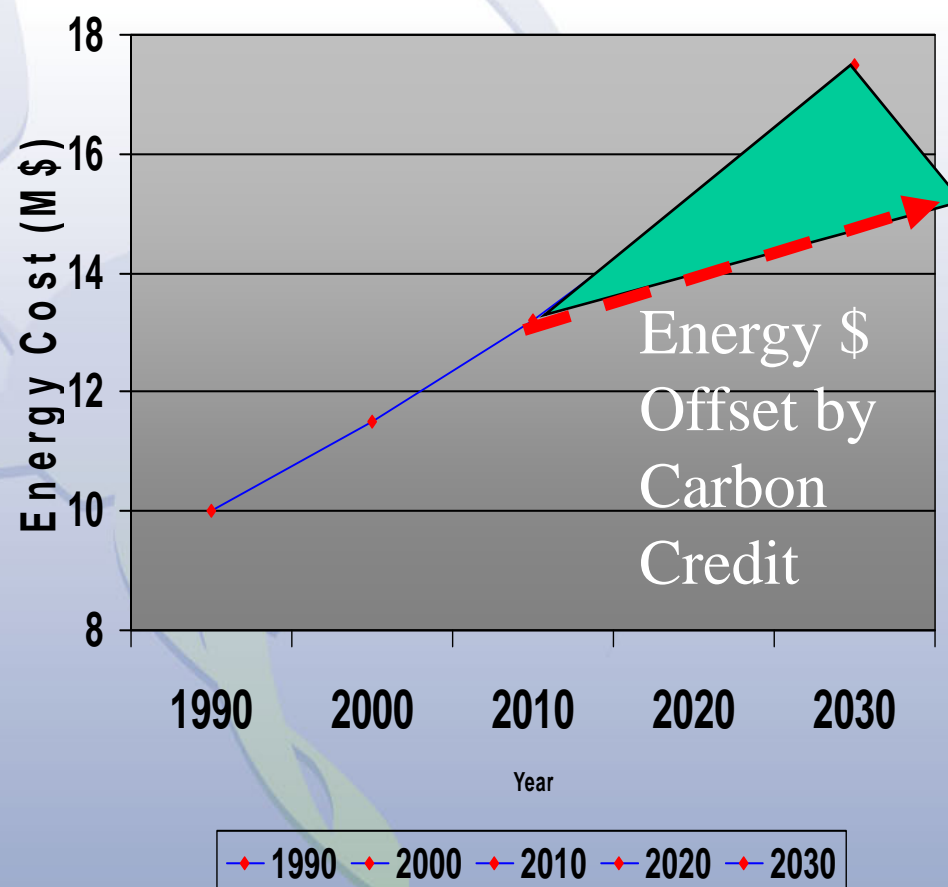
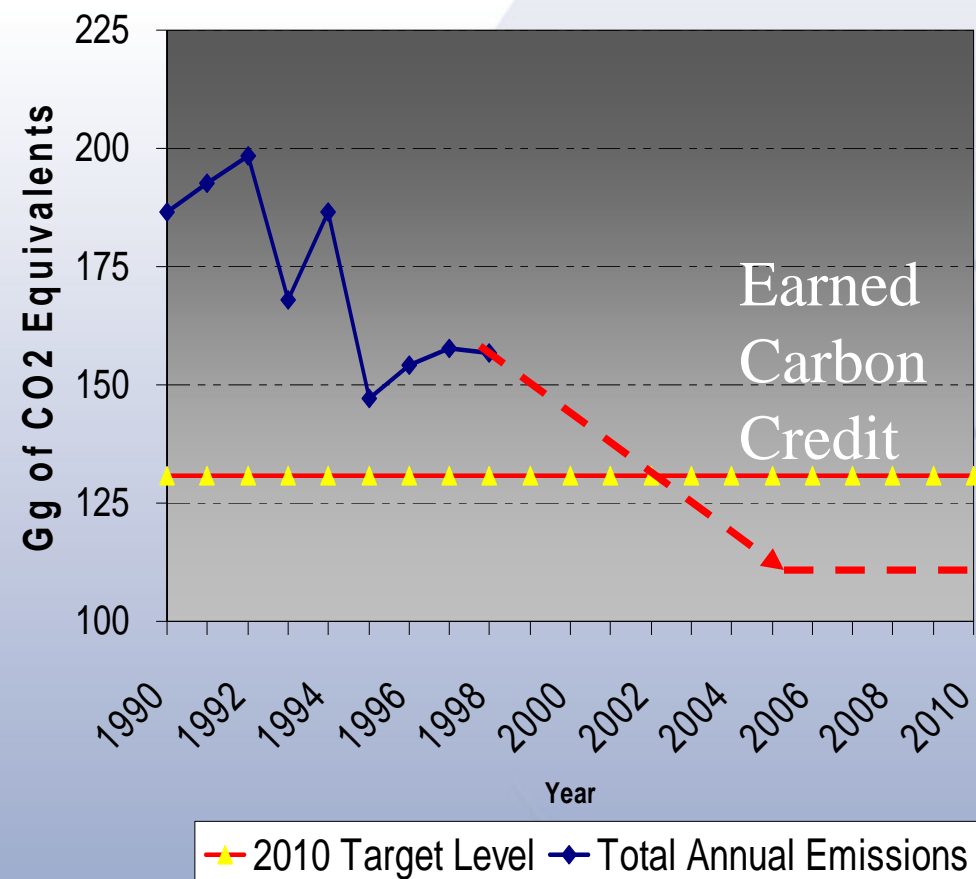
Climate Coupled Energy System *can be used to achieve Greenhouse Gas emission reductions and earn Carbon Credits.*

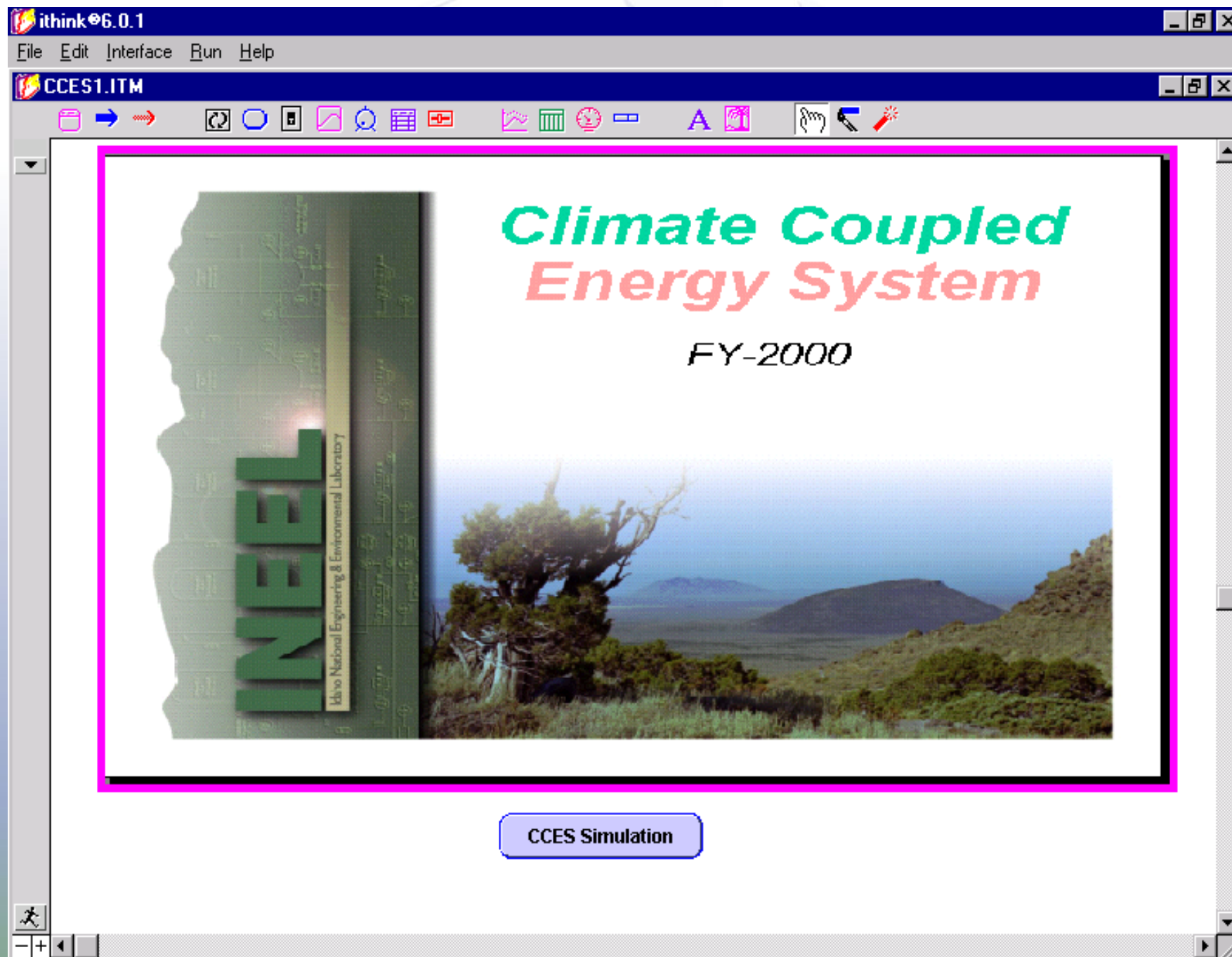


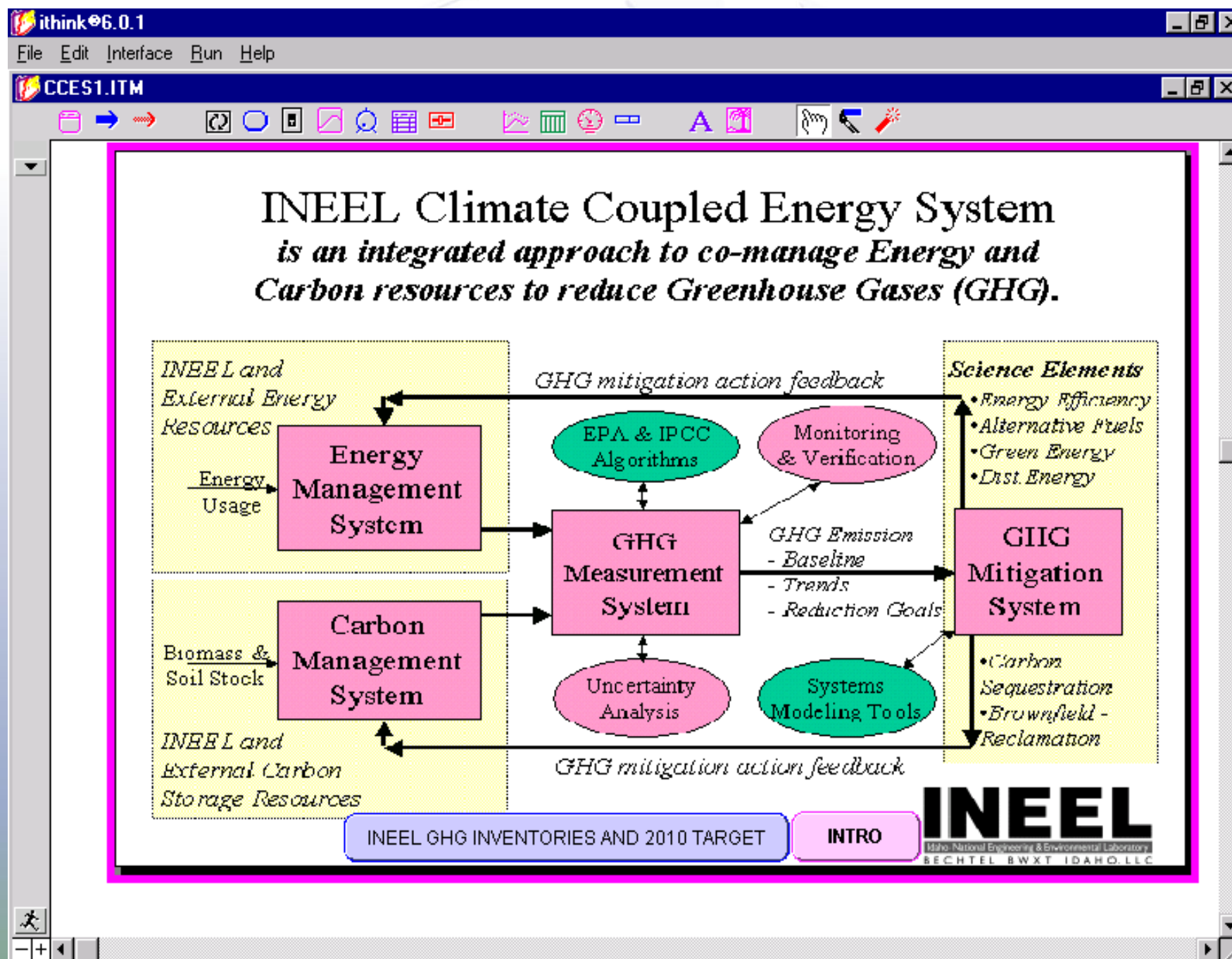


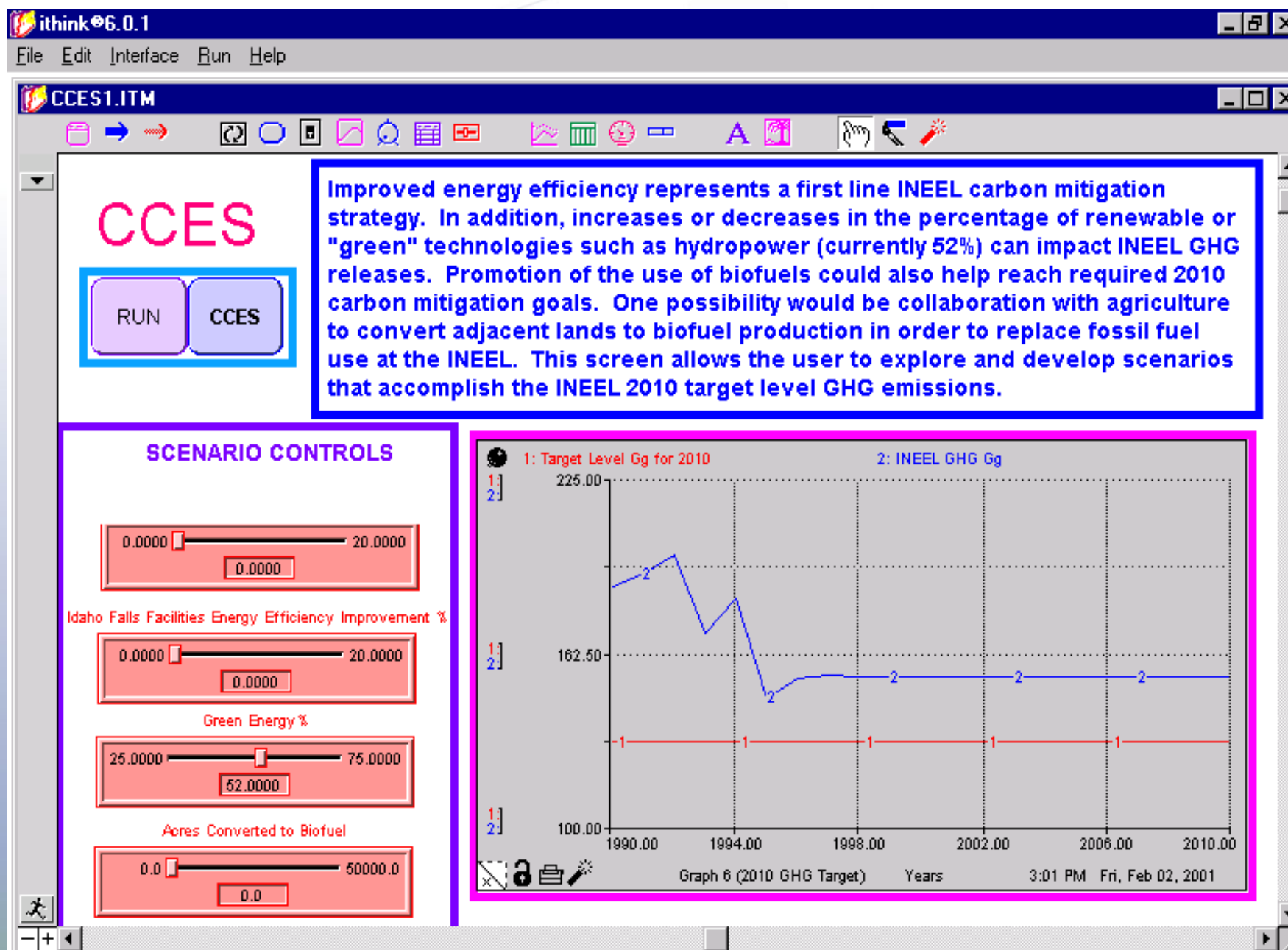
The Climate Coupled Energy System

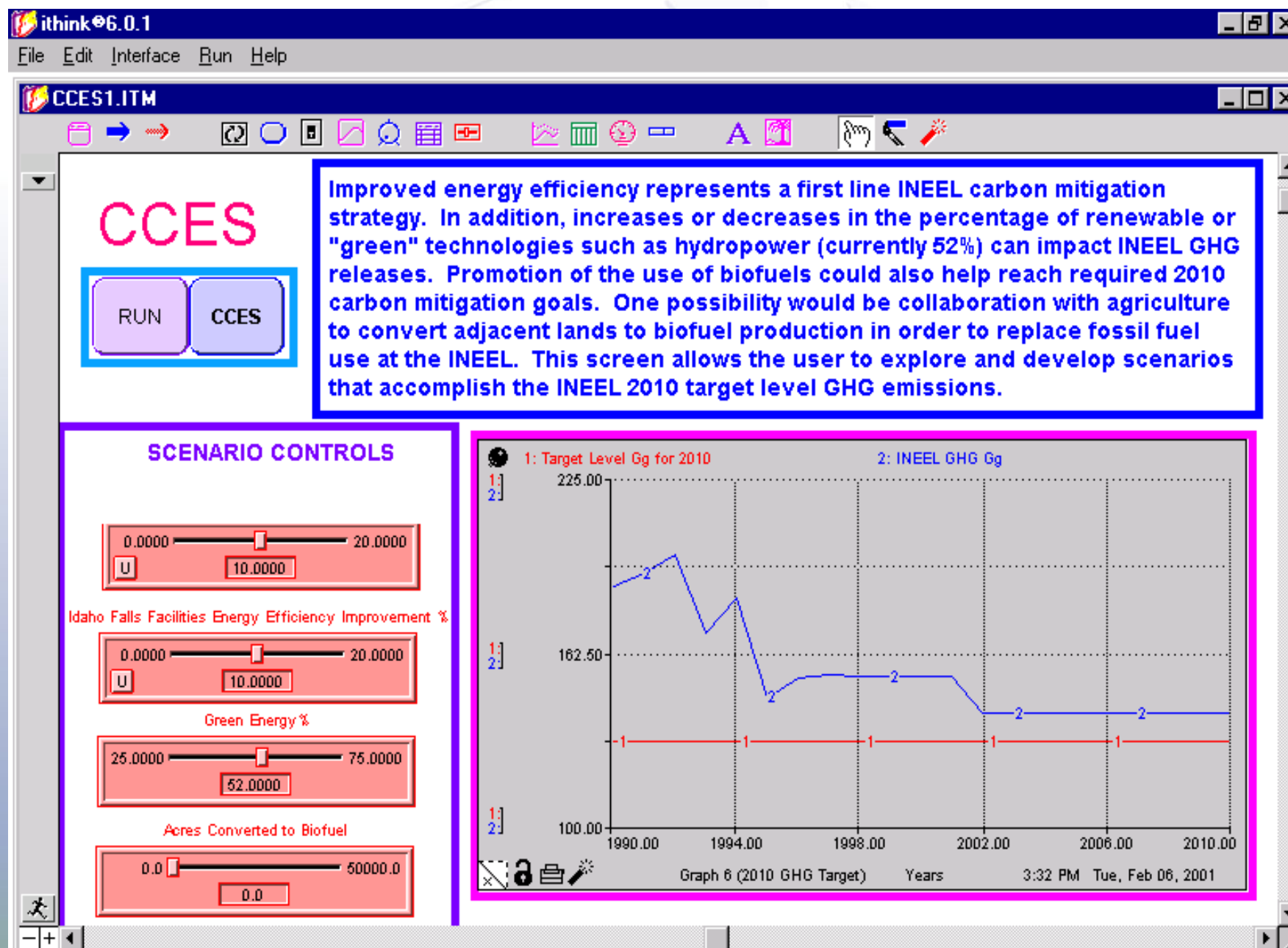
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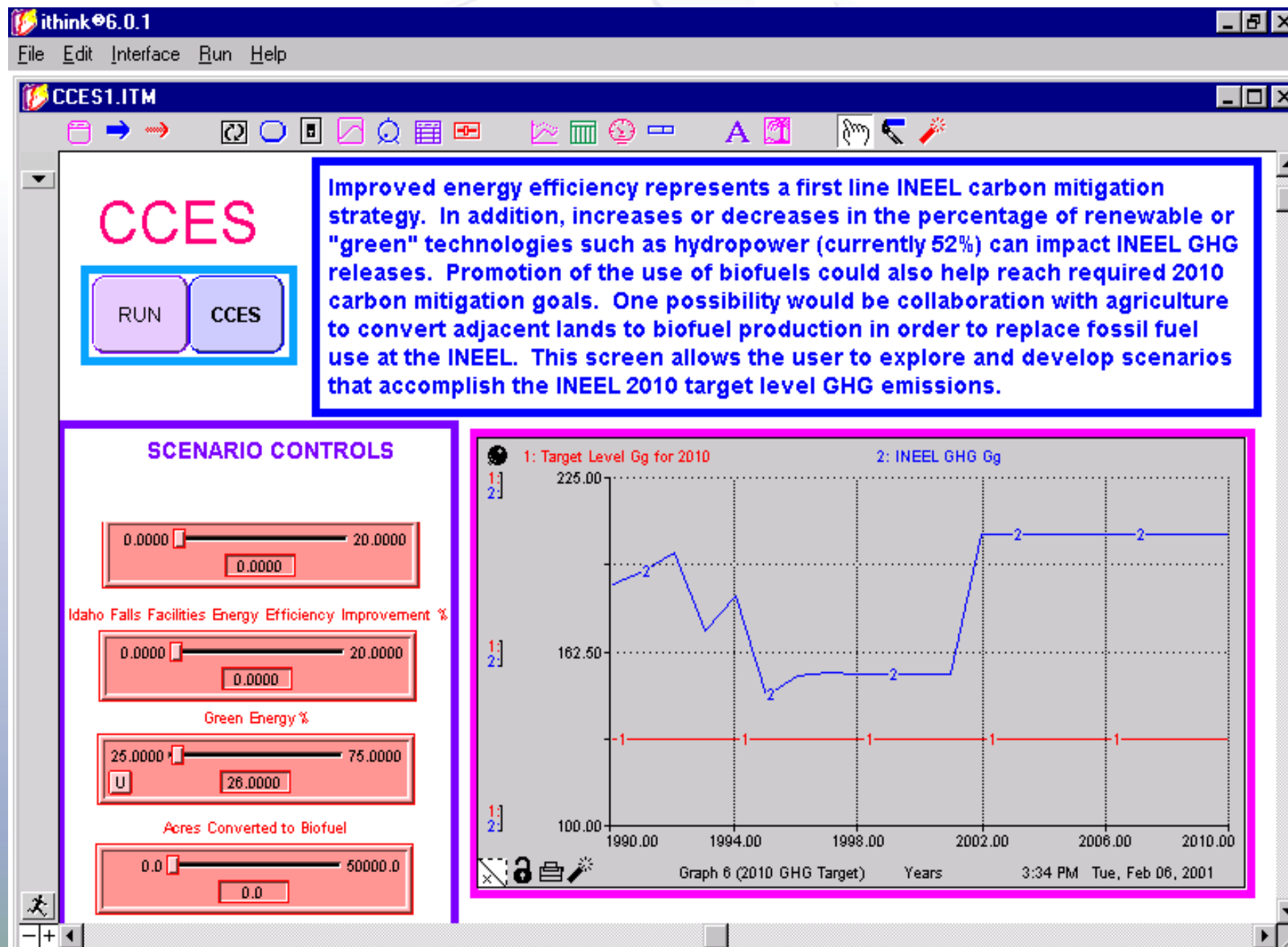


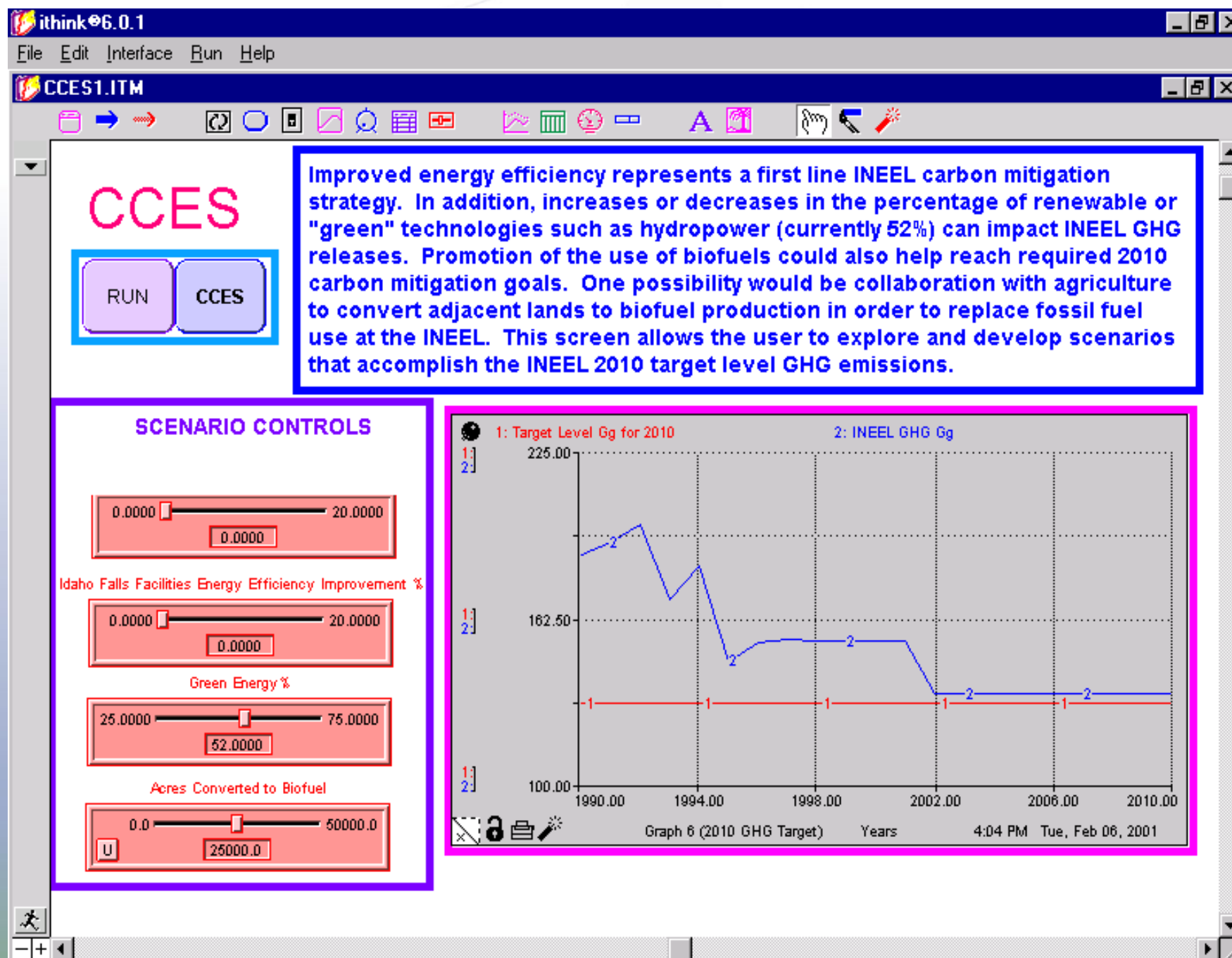


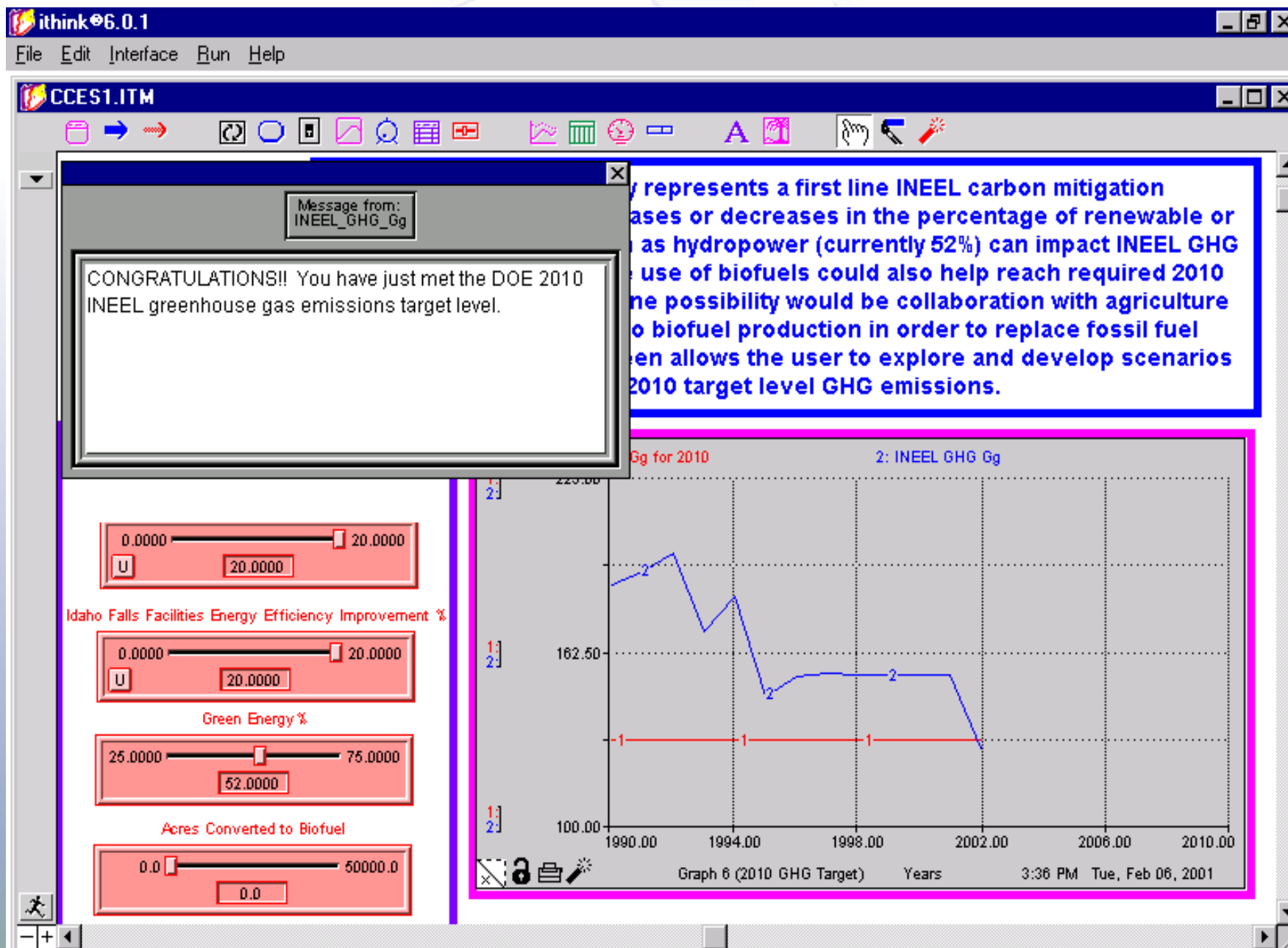














INEEL Carbon Sequestration Projects

- ***Vortex Tube Design*** - separates out CO₂ from flue exhaust gas streams.
- ***Enhanced CO₂ recovery*** - uses biofilm mats to convert CO₂ to useful products.
- ***CO₂ Sequestration in Geologic Coal Formations*** - models for CO₂ sequestration and enhanced methane recovery.
- ***Probabilistic Risk Assessments techniques used to evaluate geologic sequestration*** - evaluates risk of CO₂ injection in coal beds.
- ***CO₂ separation using Thermally Optimized Membranes*** - separates CO₂ and acid gas streams from natural gas streams.